

JC07 Rec'd PCT/PTO 06 DEC 2001

FORM PTO-1390 (REV 10-94)		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTORNEY'S DOCKET NUMBER
TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A FILING UNDER 35 U.S.C. 371			01-719
INTERNATIONAL APPLICATION NO. PCT/EP00/04759		INTERNATIONAL FILING DATE May 25, 2000	U.S. APPLICATION NO. (if known, see 37 CFR 1.5) 10/009053
TITLE OF INVENTION DEVICE FOR CONTROLLING EQUIPMENT, FOR EXAMPLE EXERCISE EQUIPMENT		PRIORITY DATE CLAIMED June 11, 1999	
APPLICANT(S) FOR DO/EO/US Hans-Hermann Spohr et al.			
Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:			
<ol style="list-style-type: none"> <input checked="" type="checkbox"/> This is a FIRST submission of items concerning a filing under 35 U.S.C. 371. <input type="checkbox"/> This is a SECOND or SUBSEQUENT submission of items concerning a filing under 35 U.S.C. 371. <input checked="" type="checkbox"/> This express request to begin national examination procedures (35 U.S.C. 371(f)) at any time rather than delay examination until the expiration of the applicable time limit set in 35 U.S.C. 371(b) and PCT Articles 22 and 39(1). <input checked="" type="checkbox"/> A proper Demand for International Preliminary Examination was made by the 19th month from the earliest claimed priority date. <input checked="" type="checkbox"/> A copy of the International Application as filed (35 U.S.C. 371(c)(2)) <ol style="list-style-type: none"> <input checked="" type="checkbox"/> is transmitted herewith (required only if not transmitted by the International Bureau). <input type="checkbox"/> has been transmitted by the International Bureau. <input type="checkbox"/> is not required, as the application was filed in the United States Receiving Office (RO/US) <input checked="" type="checkbox"/> A translation of the International Application into English (35 U.S.C. 371(c)(2)). <input checked="" type="checkbox"/> Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3)) <ol style="list-style-type: none"> <input checked="" type="checkbox"/> are transmitted herewith (required only if not transmitted by the International Bureau). <input type="checkbox"/> have been transmitted by the International Bureau. <input type="checkbox"/> have not been made; however, the time limit for making such amendments has NOT expired. <input type="checkbox"/> have not been made and will not be made. <input checked="" type="checkbox"/> A translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)). <input checked="" type="checkbox"/> An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)). <input checked="" type="checkbox"/> A translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)). 			
Items 11. to 16. below concern document(s) or information included:			
<ol style="list-style-type: none"> <input type="checkbox"/> An Information Disclosure Statement under 37 CFR 1.97 and 1.98. <input type="checkbox"/> An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included. <input checked="" type="checkbox"/> A FIRST preliminary amendment. <input type="checkbox"/> A SECOND or SUBSEQUENT preliminary amendment. <input type="checkbox"/> A substitute specification. <input type="checkbox"/> A change of power of attorney and/or address letter. <input type="checkbox"/> Other items or information: 			

page 1 of 2

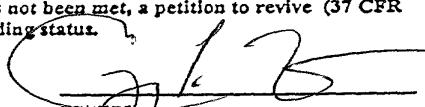
(January 1995)

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Rachel Piscitelli
Attorney and Reg. No. of Attorney
Rachel Piscitelli
Signature
December 6, 2001
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US

Annex US.II, page 2 PCT Applicant's Guide - Volume II - National Chapter - US

U.S. APPLICATION NO. (37 CFR 1.53) 107009053		INTERNATIONAL APPLICATION NO. PCT/EP00/04759		ATTORNEY'S DOCKET NUMBER 01-719	
17. <input checked="" type="checkbox"/> The following fees are submitted:				CALCULATIONS PTO USE ONLY	
BASIC NATIONAL FEE (37 CFR 1.492(a)(1)-(5)): Search Report has been prepared by the EPO or JPO..... \$890.00					
International preliminary examination fee paid to USPTO (37 CFR 1.482)..... \$660.00					
No international preliminary examination fee paid to USPTO (37 CFR 1.482) but international search fee paid to USPTO (37 CFR 1.445(a)(2)).. \$730.00					
Neither international preliminary examination fee (37 CFR 1.482) nor international search fee (37 CFR 1.445(a)(2)) paid to USPTO..... \$1040.00					
International preliminary examination fee paid to USPTO (37 CFR 1.482) and all claims satisfied provisions of PCT Article 33(2)-(4)..... \$92.00					
ENTER APPROPRIATE BASIC FEE AMOUNT =				\$ 890.00	
Surcharge of \$130.00 for furnishing the oath or declaration later than <input type="checkbox"/> 20 <input checked="" type="checkbox"/> 30 months from the earliest claimed priority date (37 CFR 1.492(e)).				\$ 130.00	
CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE		
Total claims	10 -20 =		X \$18	\$	
Independent claims	1 -3 =		X \$84	\$	
MULTIPLE DEPENDENT CLAIM(S) (if applicable) + \$270				\$	
TOTAL OF ABOVE CALCULATIONS =				\$ 1020.00	
Reduction by 1/2 for filing by small entity, if applicable. Verified Small Entity Statement must also be filed (Note 37 CFR 1.9, 1.27, 1.28).				\$ 510.00	
SUBTOTAL =				\$ 510.00	
Processing fee of \$130.00 for furnishing the English translation later than <input type="checkbox"/> 20 <input type="checkbox"/> 30 months from the earliest claimed priority date (37 CFR 1.492(f)).				\$	
TOTAL NATIONAL FEE =				\$ 510.00	
Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). \$40.00 per property +				\$	
TOTAL FEES ENCLOSED =				\$ 510.00	
				Amount to be:	
				refunded \$	
				charged \$	
a. <input checked="" type="checkbox"/> A check in the amount of \$ 510.00 to cover the above fees is enclosed.					
b. <input type="checkbox"/> Please charge my Deposit Account No. _____ in the amount of \$ _____ to cover the above fees. A duplicate copy of this sheet is enclosed.					
c. <input checked="" type="checkbox"/> The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 02-0184. A duplicate copy of this sheet is enclosed.					
NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the application to pending status.					
SEND ALL CORRESPONDENCE TO: GREGORY P. LAPOINTE LACHMAN & LAPOINTE, P.C. 900 CHAPEL ST., SUITE 1201 NEW HAVEN, CT 06510-2802				SIGNATURE  Gregory P. LaPointe NAME 28,395 REGISTRATION NUMBER	

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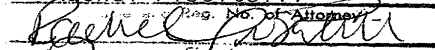
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December 6, 2001

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Rachel Piscitelli


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December 6, 2001
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Hans-Hermann Spohr et al. Docket No.: 01-719
 Serial No.: Examiner :
 Filed : Art Unit :
 PCT No. : PCT/EP00/04759
 IFD : May 25, 2000
 For : DEVICE FOR CONTROLLING EQUIPMENT, FOR EXAMPLE
 EXERCISE EQUIPMENT

Suite 1201
 900 Chapel Street
 New Haven, CT 06510-2802

PRELIMINARY AMENDMENT

Hon. Commissioner of Patents & Trademarks
 United States Patent & Trademark Office
 Washington, D.C. 20231

Dear Sir:

In the above-identified application for United States patent,
 please amend as follows.

IN THE CLAIMS

Please amend the claims as follows.

3. (Amended) The arrangement as claimed in claim 1,
 characterized in that a gear unit (4) is arranged between the
 device (1) and the drive (3).

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4. (Amended) The arrangement as claimed in claim 1, characterized in that, to simulate an active load, the actuating device (2) can be moved about and/or along the at least one axis (X, Y, Z) with a permanently selectable and continuously adjustable, if need be variable, force (F) and variable path (S).

5. (Amended) The arrangement as claimed in claim 1, characterized in that a simulation of an active load and a determinable movement of the actuating device (2) are effected in a program-controlled manner.

6. (Amended) The arrangement as claimed in claim 1, characterized in that a simulation, in particular an active movement of the actuating device (2) is effected individually in a program-controlled manner and in such a way as to be specific to the user.

7. (Amended) The arrangement as claimed in claim 1, characterized in that, for the active movement and control of the actuating device (2), in particular for the simulation of the active load, the manually applied load at the actuating device (2) can be determined and, in the event of determinable differences between active load and manually applied load, the active load or simulation is corrected automatically and in a program-controlled manner.

8. (Amended) The arrangement as claimed in claim 1, characterized in that control of the actuating device (2), in particular a simulation of an active load, such as force, speed of the actuating device (2), length of path covered, can be varied during operation, if need be, via a signal of a pulse sensor (7) and/or a signal of a blood-pressure sensor (8).

9. (Amended) The arrangement as claimed in claim 1, characterized in that the manual load applied to the actuating device (2) can be stored permanently on a data carrier, in particular a chip card (9) or personal computer (6), and can be reused as reference values for renewed training or a renewed therapy for increasing or modifying and evaluating a therapy or training.

10. (Amended) The arrangement as claimed in claim 1, characterized in that a comparison between the manual load to actually be applied to the actuating device (2) and manual load actually applied to the actuating device (2) is effected by means of at least one sensor, the active load, if need be, being corrected automatically and in a program-controlled manner.

IN THE ABSTRACT

Please add the following paragraph as a separate page after the claims.

ABSTRACT

The invention relates to a device for controlling equipment, especially exercise equipment, equipment for physical therapy or the like. Said device is provided with an operating element which is displaced about and/or along an axis. According to the invention, the at least one operating element can be driven in order to stimulate an active load.

REMARKS

Amendments have been made to the claims to remove the multiple dependencies and an Abstract has been added in order to conform with U.S. practice. An early action on the merits is respectfully requested.

If any fees are required in connection with this case, it is respectfully requested that they be charged to Deposit Account No. 02-0184.

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on December 6, 2001
(Date of Deposit)

Rachel Piscitelli

Name and Reg. No. of Attorney

Rachel Piscitelli
Signature

Date: December 6, 2001
Date of Signature

Respectfully submitted,

Hans-Hermann Spohr et al.

By

Gregory P. LaPointe
Gregory P. LaPointe
Attorney for Applicants
Telephone - (203) 777-6628

Express Mail No.: EL398538112US

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[illegible]

4. (Amended) The arrangement as claimed in [at least one of claims 1 to 3] claim 1, characterized in that, to simulate an active load, the actuating device (2) can be moved about and/or along the at least one axis (X, Y, Z) with a permanently selectable and continuously adjustable, if need be variable, force (F) and variable path (S).

5. (Amended) The arrangement as claimed in [at least one of claims 1 to 4] claim 1, characterized in that a simulation of an active load and a determinable movement of the actuating device (2) are effected in a program-controlled manner.

6. (Amended) The arrangement as claimed in [at least one of claims 1 to 5] claim 1, characterized in that a simulation, in particular an active movement of the actuating device (2) is effected individually in a program-controlled manner and in such a way as to be specific to the user.

7. (Amended) The arrangement as claimed in [at least one of claims 1 to 6] claim 1, characterized in that, for the active movement and control of the actuating device (2), in particular for the simulation of the active load, the manually applied load at the actuating device (2) can be determined and, in the event of determinable differences between active load and manually applied load, the active load or simulation is corrected automatically and in a program-controlled manner.

8. (Amended) The arrangement as claimed in [at least one of claims 1 to 7] claim 1, characterized in that control of the actuating device (2), in particular a simulation of an active load, such as force, speed of the actuating device (2), length of path covered, can be varied during operation, if need be, via a signal of a pulse sensor (7) and/or a signal of a blood-pressure sensor (8).

9. (Amended) The arrangement as claimed in [at least one of claims 1 to 8] claim 1, characterized in that the manual load applied to the actuating device (2) can be stored permanently on a data carrier, in particular a chip card (9) or personal computer (6), and can be reused as reference values for renewed

training or a renewed therapy for increasing or modifying and evaluating a therapy or training.

10. (Amended) The arrangement as claimed in [at least one of claims 1 to 9] claim 1, characterized in that a comparison between the manual load to actually be applied to the actuating device (2) and manual load actually applied to the actuating device (2) is effected by means of at least one sensor, the active load, if need be, being corrected automatically and in a program-controlled manner.

**Arrangement for controlling a device, such as
items of fitness equipment for example**

The invention relates to an arrangement for controlling a device, in particular items of fitness equipment, items of equipment for motion therapy or the like, having at least one actuating device which can be moved about and/or along an axis, a drive being assigned to the device for producing an active load.

Such arrangements are known and are common on the market in a wide variety of forms and designs. They are known in the field of motion therapy and also in the fitness sector. For example, items of fitness equipment are known in which the load can be simulated but has to be set manually.

In this case, the loads are often changed manually or during operation in corresponding items of training equipment, a factor which is undesirable.

In addition, it is often not possible for the patient or user to permanently influence his sequential training process, in particular during renewed treatments.

In particular, it is very time-consuming and costly to record a completed training program and modify or adapt it to a future training program or a future therapy. To this end, a large number of personnel are necessary, which is likewise undesirable.

A system for motion therapy with a crank is described according to DE 39 02 059 A1, it being possible for this crank to be driven or braked with arms or legs. In this case, torques or forces are determined indirectly by measuring the motor current, which is driven.

The object of the present invention is to provide an arrangement for controlling a device, such as for example items of fitness equipment, items of equipment for motion therapy, with which the above-mentioned disadvantages are removed and which permits a therapy, in particular a motion therapy, and also fitness training and which is simple to adapt individually during operation and also for subsequent therapies.

Furthermore, in particular costs and personnel costs for the modification of therapies, in particular motion therapies, are to be saved.

This object is achieved by virtue of the fact that the at least one actuating device can be driven for simulating the active load, and, for continuously and permanently detecting, in particular measuring, a manual load applied externally to the device, in particular the actuating device, a sensor, in particular a force sensor, is assigned to the device and/or the actuating device and/or the gear unit.

In the case of the present invention, an arrangement is provided in which an actuating device for simulating an active load can be driven electrically for carrying out a translational and/or rotational movement for a user.

In this case, a drive, in particular an electric motor, is used in order to move the actuating device in a rotational and/or translational manner, as described, for example, in German Utility Model DE 299 17 818.8. Reference is expressly made to the contents of said utility model; it is to be an integral part of the present invention.

Described in this publication is an arrangement for controlling an apparatus, such as, for example, an aircraft, aircraft simulator, robot or the like, in which case a handle can be moved about two axes A and B which are perpendicular to one another. In this case, for the simulation, the handle can be pivoted about the axes via corresponding drives. However, it is also conceivable for the handle to be moved in a linear and/or rotational manner. In the process, the movement of the actuating device or of the handle is effected in a positively controlled manner via the drive.

In particular for motion therapy, this positively controlled movement can be counteracted, for example, by means of a hand in order to carry out a certain therapy process.

In this case, the force, measured at any length of path, is freely selectable, in particular programmable, which force is to be applied in each case to the actuating device.

In this case, the parameters, such as, for example, pulse and/or blood pressure, can be included in the training or therapy process.

In this case, for example, the simulation of the active load on the actuating device can be influenced in a program-controlled manner. Likewise, the parameters of speed of the actuating device and lengths of path which can accordingly be covered by the actuating device can be influenced in a program-controlled manner. This electrically driven actuating device or active load is therefore suitable, since no complicated apparatus, items of fitness equipment with weights, or the like are necessary in order to carry out a certain sequence of movement.

These weights may be dispensed with; any desired number of intermediate sizes, different forces for different movements can be set at different lengths of path, which

is not readily possible in the case of items of mechanical fitness equipment. In this case, each training or therapy sequence can be stored completely, which is likewise advantageous.

In addition, totally controlled motion training and/or therapy training and exact process monitoring are effected, which is advantageous.

Further advantages, features and details of the invention follow from the description below of preferred exemplary embodiments and with reference to the drawing, in which:

Figure 1 shows a schematic plan view of an arrangement for controlling a device;

Figure 2 shows a schematic elevation of the arrangement according to figure 1 with a multiplicity of connectable elements.

According to figure 1, an arrangement R_1 according to the invention for controlling a device 1, such as, for example, items of fitness equipment, items of equipment for motion therapy or the like, has an actuating device 2 which can be moved about the axes X, Y and Z and/or along the axes X, Y and Z, as shown in the coordinate system.

The actuating device may be, for example, a joystick, a lever, a pedal or the like. There is no limit to the invention in this respect. The actuating device can be actuated, for example, manually by means of a hand or a foot, an arm or a leg of a human body or with the human body itself.

It permits a certain movement along the axes X, Y, Z in a rotational and/or linear manner, it being of crucial importance in the case of the present invention that the actuating device 2, for simulating an active load, can be driven by means of a drive 3 in a rotational and/or linear manner.

The drive 3 is preferably designed as an electric motor, in which case a gear unit 4 can be interposed or arranged in between actuating device 2 and drive 3.

Furthermore, it is of crucial importance in the case of the present invention that, for continuously and permanently detecting, in particular measuring, a manual force applied to the actuating device 2, a sensor 5, in particular a force sensor, is assigned to the device 1, in particular the actuating device 2.

If a manual force is applied to the actuating device 2, the force sensor 5 determines this manually applied force.

By the active simulation and movement of the actuating device 2 by means of the drive 3, which may be effected in a program-controlled manner, determinable and certain sequences of movement at a certain speed over certain lengths of path or at certain rotational angles being possible, freely selectable sequences of movement can be programmed and carried out.

To this end, for example, the patient can move the actuating device 2 via a "teach-in method", the movement being stored in a personal computer 6, see figure 2, and then the device 1, for simulating an active load, repeating this input movement, in particular this therapeutic movement of the actuating device 2 to be executed, as often as desired via the drive 3.

The patient follows up this entire movement by means of his arm for example.

In this case, the user, with this movement, can counteract a manually applied force F, which is merely indicated symbolically in figures 1 and 2. For example, he can

actuate the actuating device 2 with a determinable force, the arrangement R_1 , in particular the device 1, counteracting with this force via the drive 3.

The magnitude of the applied force can be determined exactly via the force sensor 5, it being possible to control and influence the movement by a comparison between setpoint and actual value after the manual force has been applied to the actuating device 2.

If the manual force applied to the actuating device 2 is too small in order to move the device 1, in particular the actuating device 2, in the programmed sequence of movement, the active load can be reduced in a program-controlled manner.

In this case, at the arrangement R_2 , as shown in particular in figure 2, a pulse sensor 7 or blood-pressure sensor 8, which is connected to the user, in particular the patient, may be connected to the personal computer 6 or to the device 1 in order to influence the control of the active load or the simulation of the active load and in particular the active actuation of the actuating device 2 via the drive 3.

If the pulse and the blood pressure increase to an undesirably high extent, the active load is automatically reduced or increased, in accordance with the desired and programmable sequence.

Furthermore, it is advantageous in the case of the present invention that the individual training sequences or therapy sequences can be stored, for example, in a data acquisition system 9, in particular a data carrier, and, if need be, via an externally removable chip card 10.

A follow-up therapy or the follow-up training can thus be influenced with the aid of the stored data by virtue of the fact that the active loads for the follow-up training can be increased, reduced or changed or the corresponding movements of the actuating

devices 2 can be adapted or modified. This is likewise to be within the scope of the present invention.

List of item numbers

- | | |
|----------------|-------------------------|
| 1 | Device |
| 2 | Actuating device |
| 3 | Drive |
| 4 | Gear unit |
| 5 | Sensor |
| 6 | Personal computer |
| 7 | Pulse sensor |
| 8 | Blood-pressure sensor |
| 9 | Data acquisition system |
| 10 | Chip card |
| | |
| R ₁ | Arrangement |
| R ₂ | Arrangement |
| | |
| F | Force |
| S | Path |

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Patent claims

1. An arrangement for controlling a device (1), in particular items of fitness equipment, items of equipment for motion therapy or the like, having at least one actuating device (2) which can be moved about and/or along an axis, a drive (3) being assigned to the device (1) for producing an active load, characterized in that the at least one actuating device (2) can be driven for simulating the active load, and, for continuously and permanently detecting, in particular measuring, a manual load applied externally to the device (1), in particular the actuating device (2), a sensor (5), in particular a force sensor, is assigned to the device (1) and/or the actuating device (2) and/or the gear unit (4).
2. The arrangement as claimed in claim 1, characterized in that, as drive (3), an electric motor, is assigned to the device (1) for producing the active load.
3. The arrangement as claimed in claim 1 or 2, characterized in that a gear unit (4) is arranged between the device (1) and the drive (3).
4. The arrangement as claimed in at least one of claims 1 to 3, characterized in that, to simulate an active load, the actuating device (2) can be moved about and/or along the at least one axis (X, Y, Z) with a permanently selectable and continuously adjustable, if need be variable, force (F) and variable path (S).
5. The arrangement as claimed in at least one of claims 1 to 4, characterized in that a simulation of an active load and a determinable movement of the actuating device (2) are effected in a program-controlled manner.

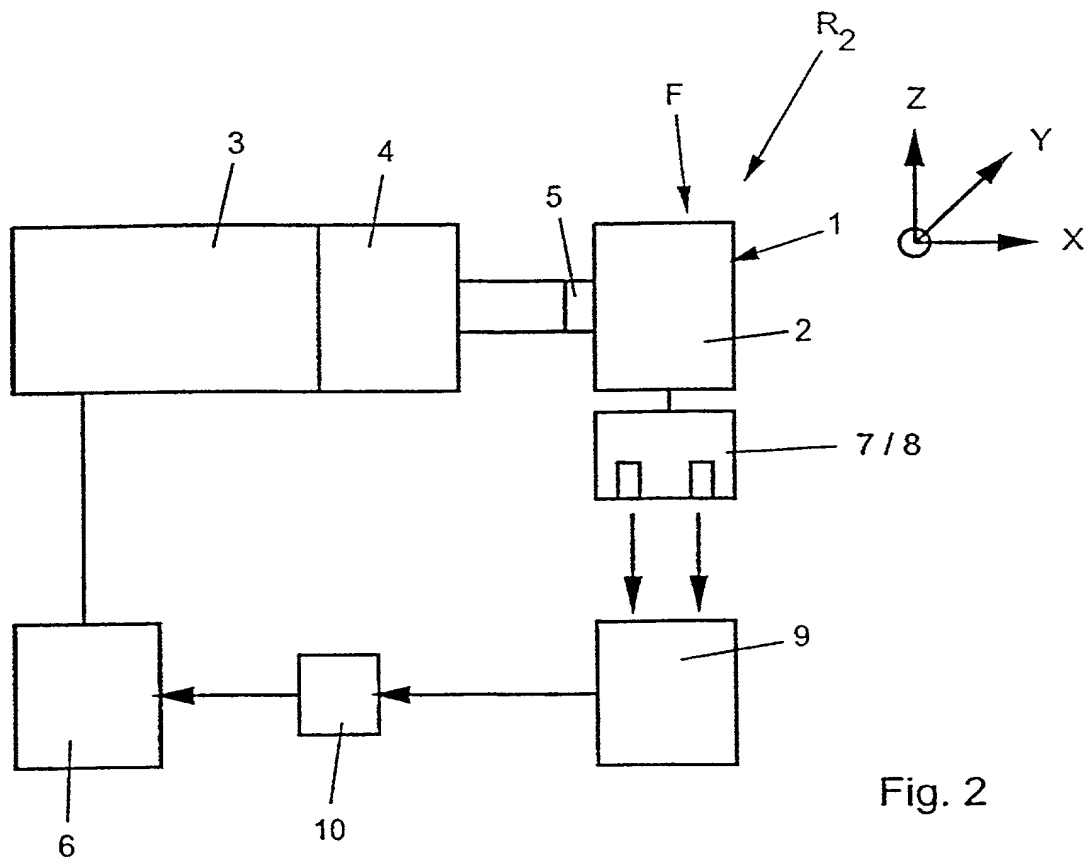
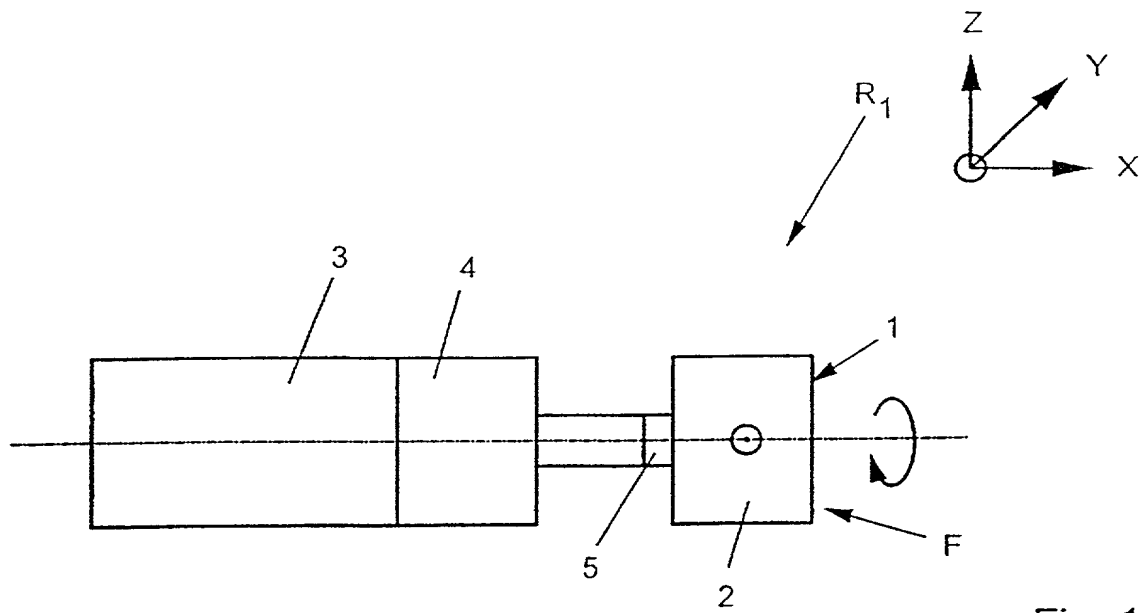
6. The arrangement as claimed in at least one of claims 1 to 5, characterized in that a simulation, in particular an active movement of the actuating device (2) is effected individually in a program-controlled manner and in such a way as to be specific to the user.

7. The arrangement as claimed in at least one of claims 1 to 6, characterized in that, for the active movement and control of the actuating device (2), in particular for the simulation of the active load, the manually applied load at the actuating device (2) can be determined and, in the event of determinable differences between active load and manually applied load, the active load or simulation is corrected automatically and in a program-controlled manner.

8. The arrangement as claimed in at least one of claims 1 to 7, characterized in that control of the actuating device (2), in particular a simulation of an active load, such as force, speed of the actuating device (2), length of path covered, can be varied during operation, if need be, via a signal of a pulse sensor (7) and/or a signal of a blood-pressure sensor (8).

9. The arrangement as claimed in at least one of claims 1 to 8, characterized in that the manual load applied to the actuating device (2) can be stored permanently on a data carrier, in particular a chip card (9) or personal computer (6), and can be reused as reference values for renewed training or a renewed therapy for increasing or modifying and evaluating a therapy or training.

10. The arrangement as claimed in at least one of claims 1 to 9, characterized in that a comparison between the manual load to actually be applied to the actuating device (2) and manual load actually applied to the actuating device (2) is effected by means of at least one sensor, the active load, if need be, being corrected automatically and in a program-controlled manner.



SUPPLEMENTAL DECLARATION (37 C.F.R. § 1.67(b))

(complete the following where a supplemental declaration is being submitted)

- ☐ I hereby declare that the subject matter of the
- ☐ attached amendment
- ☐ amendment filed on _____

was part of my/our invention and was invented before the filing date of the original application, above-identified, for such invention.

ACKNOWLEDGEMENT OF REVIEW OF PAPERS AND DUTY OF CANDOR

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information, which is material to patentability as defined in 37, Code of Federal Regulations, § 1.56,

(also check the following items, if desired)

- ☒ and which is material to the examination of this application, namely, information where there is a substantial likelihood that a reasonable Examiner would consider it important in deciding whether to allow the application to issue as a patent, and
- ☐ in compliance with this duty, there is attached an information disclosure statement, in accordance with 37 C.F.R. § 1.98.

PRIORITY CLAIM (35 U.S.C. §§ 119(a)-(d))

NOTE: "The claim to priority need be in no special form and may be made by the attorney or agent if the foreign application is referred to in the oath or declaration as required by § 1.63. The claim for priority and the certified copy of the foreign application specified in 35 U.S.C. 119(b) must be filed in the case of an interference (§ 1.630), when necessary to overcome the date of a reference relied upon by the examiner, when specifically required by the examiner, and in all other situations, before the patent is granted. If the claim for priority or the certified copy of the foreign application is filed after the date the issue fee is paid, it must be accompanied by a petition requesting entry and by the fee set forth in § 1.17(f). If the certified copy is not in the English language, a translation need not be filed except in the case of interference; or when necessary to overcome the date of a reference relied upon by the examiner; or when specifically required by the examiner, in which event an English language translation must be filed together with a statement that the translation of the certified copy is accurate." 37 C.F.R. § 1.55(a).

I hereby claim foreign priority benefits under Title 35, United States Code, §§ 119(a)-(d) of any foreign application(s) for patent or inventor's certificate or of any PCT international application(s) designating at least one country other than the United States of America listed below and have also identified below any foreign application(s) for patent or inventor's certificate or any PCT international application(s) designating at least one country other than the United States of America filed by me on the same subject matter having a filing date before that of the application(s) of which priority is claimed.

(complete (d) or (e))

- (d) ☐ no such applications have been filed.
- (e) ☒ such applications have been filed as follows.

NOTE: Where item (c) is entered above and the International Application which designated the U.S. itself claimed priority check item (e), enter the details below and make the priority claim.

(Declaration and Power of Attorney [1-1]—page 3 of 7)

**PRIOR FOREIGN/PCT APPLICATION(S) FILED WITHIN 12 MONTHS
(6 MONTHS FOR DESIGN) PRIOR TO THIS APPLICATION
AND ANY PRIORITY CLAIMS UNDER 35 U.S.C. § 119(a)-(d)**

COUNTRY (OR INDICATE IF PCT)	APPLICATION NUMBER	DATE OF FILING (day, month, year)	PRIORITY CLAIMED UNDER 37 USC 119
Germany	299 17 818.8	11 June 1999	<input type="checkbox"/> YES NO <input type="checkbox"/> <input checked="" type="checkbox"/> YES NO <input type="checkbox"/>
Germany	100 10 678.1	4 March 2000	<input checked="" type="checkbox"/> YES NO <input type="checkbox"/> <input type="checkbox"/> YES NO <input type="checkbox"/>
			<input type="checkbox"/> YES NO <input type="checkbox"/> <input type="checkbox"/> YES NO <input type="checkbox"/>
			<input type="checkbox"/> YES NO <input type="checkbox"/> <input type="checkbox"/> YES NO <input type="checkbox"/>
			<input type="checkbox"/> YES NO <input type="checkbox"/> <input type="checkbox"/> YES NO <input type="checkbox"/>

**CLAIM FOR BENEFIT OF PRIOR U.S. PROVISIONAL APPLICATION(S)
(34 U.S.C. § 119(e))**

I hereby claim the benefit under Title 35, United States Code, § 119(e) of any United States provisional application(s) listed below:

PROVISIONAL APPLICATION NUMBER

FILING DATE

_____/_____
_____/_____
_____/_____

**CLAIM FOR BENEFIT OF EARLIER US/PCT APPLICATION(S)
UNDER 35 U.S.C. § 120**

- ☐ The claim for the benefit of any such applications are set forth in the attached ADDED PAGES TO COMBINED DECLARATION AND POWER OF ATTORNEY FOR DIVISIONAL, CONTINUATION OR CONTINUATION-IN-PART (C-I-P) APPLICATION.

(Declaration and Power of Attorney [1-1]—page 4 of 7)

SPECIFICATION IDENTIFICATION

the specification of which:

(complete (a), (b), or (c))

(a) ☐ is attached hereto.

NOTE: "The following combinations of information supplied in an oath or declaration filed on the application filing date with a specification are acceptable as minimums for identifying a specification and compliance with any one of the items below will be accepted as complying with the identification requirement of 37 CFR 1.63:

"(1) name of inventor(s), and reference to an attached specification which is both attached to the oath or declaration at the time of execution and submitted with the oath or declaration on filing;

"(2) name of inventor(s), and attorney docket number which was on the specification as filed;
or

"(3) name of inventor(s), and title which was on the specification as filed."

Notice of July 13, 1995 (1177 O.G. 60).

(b) ☒ was filed on December 6, 2001, as ☒ Serial No. 10 / 009,053
or ☐ _____
and was amended on _____ (if applicable).

NOTE: Amendments filed after the original papers are deposited with the PTO that contain new matter are not accorded a filing date by being referred to in the declaration. Accordingly, the amendments involved are those filed with the application papers or, in the case of a supplemental declaration, are those amendments claiming matter not encompassed in the original statement of invention or claims. See 37 C.F.R. § 1.67.

NOTE: "The following combinations of information supplied in an oath or declaration filed after the filing date are acceptable as minimums for identifying a specification and compliance with any one of the items below will be accepted as complying with the identification requirement of 37 CFR 1.63:

"(A) application number (consisting of the series code and the serial number, e.g., 08/123,456);

"(B) serial number and filing date;

"(C) attorney docket number which was on the specification as filed;

"(D) title which was on the specification as filed and reference to an attached specification which is both attached to the oath or declaration at the time of execution and submitted with the oath or declaration; or

"(E) title which was on the specification as filed and accompanied by a cover letter accurately identifying the application for which it was intended by either the application number (consisting of the series code and the serial number, e.g., 08/123,456), or serial number and filing date. Absent any statement(s) to the contrary, it will be presumed that the application filed in the PTO is the application which the inventor(s) executed by signing the oath or declaration."

M.P.E.P. § 601.01(a), 7th Ed.

(c) ☒ was described and claimed in PCT International Application No. PCT/EP00/04759, filed on 25 May 2000 and as amended under PCT Article 19 on _____ (if any).

(Declaration and Power of Attorney [1-1]—page 2 of 7)

**ALL FOREIGN APPLICATION(S), IF ANY, FILED MORE THAN 12 MONTHS
(6 MONTHS FOR DESIGN) PRIOR TO THIS U.S. APPLICATION**

NOTE: If the application filed more than 12 months from the filing date of this application is a PCT filing forming the basis for this application entering the United States as (1) the national stage, or (2) a continuation, divisional, or continuation-in-part, then also complete ADDED PAGES TO COMBINED DECLARATION AND POWER OF ATTORNEY FOR DIVISIONAL, CONTINUATION OR C-I-P APPLICATION for benefit of the prior U.S. or PCT application(s) under 35 U.S.C. § 120.

POWER OF ATTORNEY

I hereby appoint the following practitioner(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith.

(list name and registration number)

(4) Robert H. Bachman (19,374), Gregory P. LaPointe (28,395),
Barry L. Kelmacher (29,999), and George A. Coury (34,309),
all of Bachman & LaPointe, P.C., 900 Chapel Street, Suite
1201, New Haven, CT 06510-2802

(check the following item, if applicable)

- ☒ I hereby appoint the practitioner(s) associated with the Customer Number provided below to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith.
- ☐ Attached, as part of this declaration and power of attorney, is the authorization of the above-named practitioner(s) to accept and follow instructions from my representative(s).

SEND CORRESPONDENCE TO

DIRECT TELEPHONE CALLS TO:
(Name and telephone number)

☒ Address
Bachman & LaPointe, P.C.
900 Chapel Street, Suite 1201
New Haven, CT 06510-2802

Gregory P. LaPointe
(203) 777-6628, ext. 111

☐ Customer Number _____

2050653-0305007

P. 280

DECLARATION

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

SIGNATURE(S)

NOTE: Carefully indicate the family (or last) name, as it should appear on the filing receipt and all other documents.

NOTE: Each inventor must be identified by full name, including the family name, and at least one given name without abbreviation together with any other given name or initial, and by his/her residence, post office address and country of citizenship. 37 CFR § 1.63(a)(3).

NOTE: Inventors may execute separate declarations/oaths provided each declaration/oath sets forth all the inventors. Section 1.63(a)(3) requires that a declaration/oath, inter alia, identify each inventor and prohibits the execution of separate declarations/oaths which each sets forth only the name of the executing inventor. 62 Fed. Reg. 53,131, 53,142, October 10, 1997.

1-00 Full name of sole or first inventor

Hans-Hermann

Spohr

(GIVEN NAME)

(MIDDLE INITIAL OR NAME)

(FAMILY (OR LAST) NAME)

Inventor's signature X/Hans-Hermann Spohr

Date 3.12.01

Country of Citizenship Germany

DEX

Residence Gruner Weg 23, D-75365 Calw, Germany

Post Office Address same

2-00 Full name of second joint inventor, if any

Manfred

Wittenstein

(GIVEN NAME)

(MIDDLE INITIAL OR NAME)

(FAMILY (OR LAST) NAME)

Inventor's signature X/Manfred Wittenstein

Date 3.12.01

Country of Citizenship Germany

DEX

Residence Erlenbachweg 30, D-97980 Bad Mergentheim, Germany

Post Office Address same

Full name of third joint inventor, if any

(GIVEN NAME)

(MIDDLE INITIAL OR NAME)

(FAMILY (OR LAST) NAME)

Inventor's signature _____

Date _____

Country of Citizenship _____

Residence _____

Post Office Address _____

(Declaration and Power of Attorney [1-1]—page 6 of 7)

2050601 25060007 1000905 1030502

(check proper box(es) for any of the following added page(s)
that form a part of this declaration)

- ☐ Signature for fourth and subsequent joint inventors. Number of pages added _____

* * *

- ☐ Signature by administrator(trix), executor(trix) or legal representative for deceased or incapacitated inventor. Number of pages added _____

* * *

- ☐ Signature for inventor who refuses to sign or cannot be reached by person authorized under 37 CFR 1.47. Number of pages added _____

* * *

- ☐ Added page for signature by one joint inventor on behalf of deceased inventor(s) where legal representative cannot be appointed in time. (37 CFR 1.47)

* * *

- ☐ Added pages to combined declaration and power of attorney for divisional, continuation, or continuation-in-part (C-I-P) application.

☐ Number of pages added _____

* * *

- ☐ Authorization of practitioner(s) to accept and follow instructions from representative.

* * *

(if no further pages form a part of this Declaration,
then end this Declaration with this page and check the following item)

- ☒ This declaration ends with this page.